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| Abstract: | The user and developer documentation of the HPC Platform is available in the HPC Platform Guidebook website (https://hbp-hpc-platform.fz-juelich.de) that is also integrated into the HPC Collab in the Collaboratory. This document outlines the structure of this website and describes which information is available where. |
| Keywords: | User documentation, developer documentation, software, services, guidebook |
| Available at: | www.humanbrainproject.eu/ec-deliverables |



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1. The Aim of this Document

The aim of this document is to detail the technical and user documentation available to internal and external users of the High Performance Computing Platform, and to provide a roadmap describing plans for future Platform development.

Public release of a preliminary prototype of the High Performance Computing Platform is the subject of a separate Deliverable (D7.7.5 - High Performance Computing Platform v1), to be published simultaneously with this one. The Platform is accessible via the HBP Collaboratory web interface at:

<https://collab.humanbrainproject.eu/#/collab/264/nav/1973>

2. Technical and User Documentation

The HPC Platform Guidebook contains general information about the HPC Platform and its infrastructure, a collection of user and developer documentation and the Platform training programme. It is available in the HPC Collab or directly at <https://hbp-hpc-platform.fz-juelich.de>.

The Guidebook website is structured as follows:

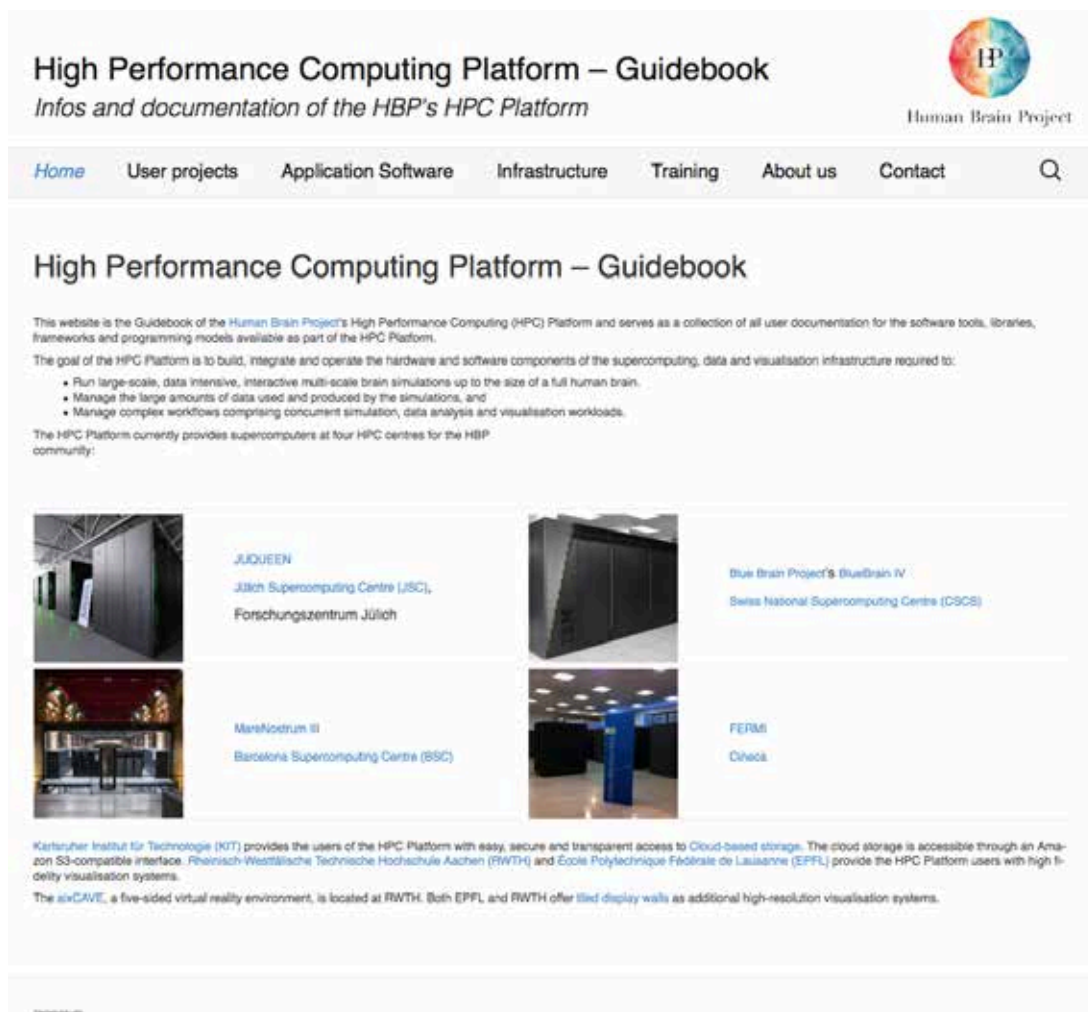


Figure 1: Screenshot of the HPC Platform Guidebook's start page



User projects

User projects are collaborations between the HPC Platform and scientists from one or more other HBP Subprojects. They serve as examples of how the HPC Platform can be used for neuroscientific research. The initial set of three user projects will be extended in the future.

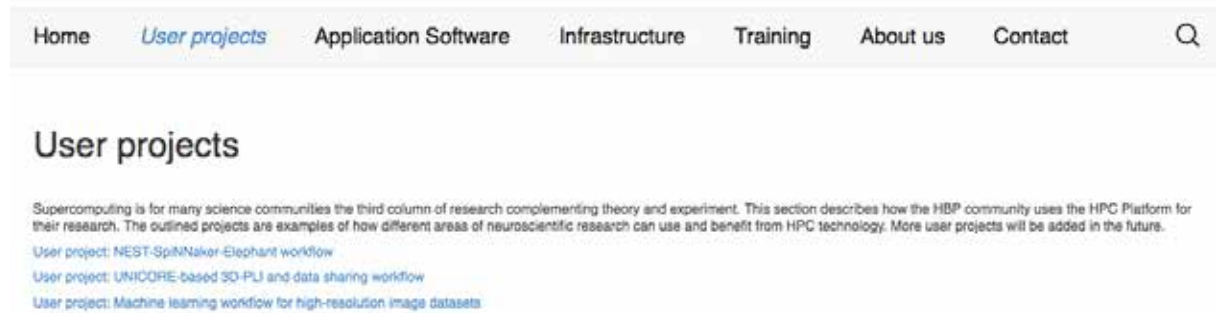


Figure 2: Screenshot of the "User projects" section

Application Software

The section "Application Software" contains a list of all software available as part of the "Software & Services" layer of the HPC Platform as outlined in the Month 30 Deliverable D7.7.5, Annex A: Platform Architectural Diagram.

The following information is provided for all software:

- Description of the software including screenshots, figures and information about recent updates
- Date of release, latest version of software and documentation
- Link to software repository or download URL
- Link to the user documentation
- Responsible person or group, WP, Task and related SP7 Milestones
- Requirements and dependencies
- Target systems
- Type of software, e.g. API, library, application or programming model
- Target users
- Tags and keywords

The section also provides a search mechanism that allows the user to find software based on the different types of information listed above.

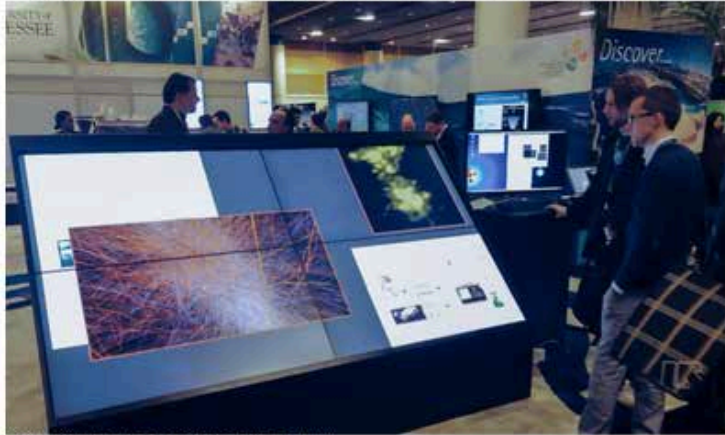
Home User projects Application Software Infrastructure Training About us Contact

DisplayCluster


[display walls, scientific visualization, visualization](#)
[WP 7.3, T 7.3.1, Service User \(ServU\), Scientific User \(SU\), Scientific Developer \(SCIDEV\), Portal User \(PU\), MS141: Interactive visualization framework, MS130: Software for interactive visualization, Infrastructure Personnel \(INFRA\), Developer \(DEV\), Computational Scientific User \(CSU\), Biological Scientific User \(BSU\), Application, Application](#)

DisplayCluster is a software environment for interactively driving large-scale tiled displays. It provides the following functionality:

- View media interactively such as high-resolution imagery, PDFs and video.
- Receive content from remote sources such as laptops, desktops or parallel remote visualization machines using the Deflect library.



DisplayCluster on a mobile tiled display wall



DisplayCluster on a tiled display wall

| | |
|-----------------------------|--|
| Date of release | 2013 |
| Version of software | 0.5 |
| Version of documentation | 0.5 |
| Software available: | https://github.com/BlueBrain/DisplayCluster https://github.com/BlueBrain/Deflect |
| Documentation | https://bluebrain.github.io/ |
| Responsible | EPFL, Stefan Eilemann (stefan.eilemann@epfl.ch) |
| Requirements & dependencies | Boost, LibJPEGTurbo, Qt, GLUT, OpenGL, Lunchbox, FCGI, FFmpeg, MPI, Poppler, TUIO, OpenMP |
| Target system(s) | Tiled display walls |

← Cube-Score-P?/Statistics FLAT →

impression

Figure 3: Screenshot: Example of a software page



Infrastructure

The “Infrastructure” section has the following structure:

- Supercomputers
 - Supercomputers available
Technical details of the supercomputers integrated in the HPC Platform
 - JUQUEEN
 - BlueBrain IV
 - MareNostrum III
 - FERMI
 - Access to Supercomputers
Supercomputers are limited resources shared by several communities. Thus scientists need to apply for compute and storage resources in a competitive process. Applications are evaluated in a scientific and technical peer-review to ensure a fair distribution of resources. Also users of the HPC Platform need to apply for compute and storage resources in advance. This section provides information about all calls for proposals available, about how to get test accounts and preparatory access.
 - Access to JUQUEEN
 - Access to BlueBrain IV
 - Access to MareNostrum III
 - Access to FERMI
 - HPC Storage
Information about the file systems available at the HPC centres, including user/group/project quota.
 - Working with supercomputers
Guide explaining the usual workflow of how to start using HPC including the porting of applications to supercomputers
- Cloud storage
Technical details of the Cloud storage provided by KIT
- Visualisation systems
Technical details of the high-fidelity visualisation systems at RWTH Aachen and EPFL
 - Booking request for visualisation systems
Contact form that allows users to send a request for using the visualisation systems
- Network
Technical details of the networks (PRACE, dedicated links and public Internet) linking the HPC sites, the Cloud at KIT and the visualisation sites
- Platform configuration
Developer documentation of the HPC Platform
 - UNICORE
UNICORE is used to logically link the federated infrastructure of the HPC Platform.



- UNICORE installation
Technical details of the UNICORE installation at the HPC Platform sites
- UNICORE Portal
Information about the UNICORE Portal, a web interface to HPC resources that is part of the HPC Collab
- UNICORE Workflow Engine
Information about the UNICORE workflow engine that can be used to control the execution of multiple UNICORE jobs at one or at multiple sites, dealing with dependencies between jobs and handling any of required data movement.
- User & group management
Account management of HPC Platform user accounts
 - Naming scheme for users and groups
Definition of the naming scheme for HPC Platform user accounts
 - Accounting library
Link to technical details of the accounting scripts used at JUELICH-JSC for managing the HPC Platform user accounts

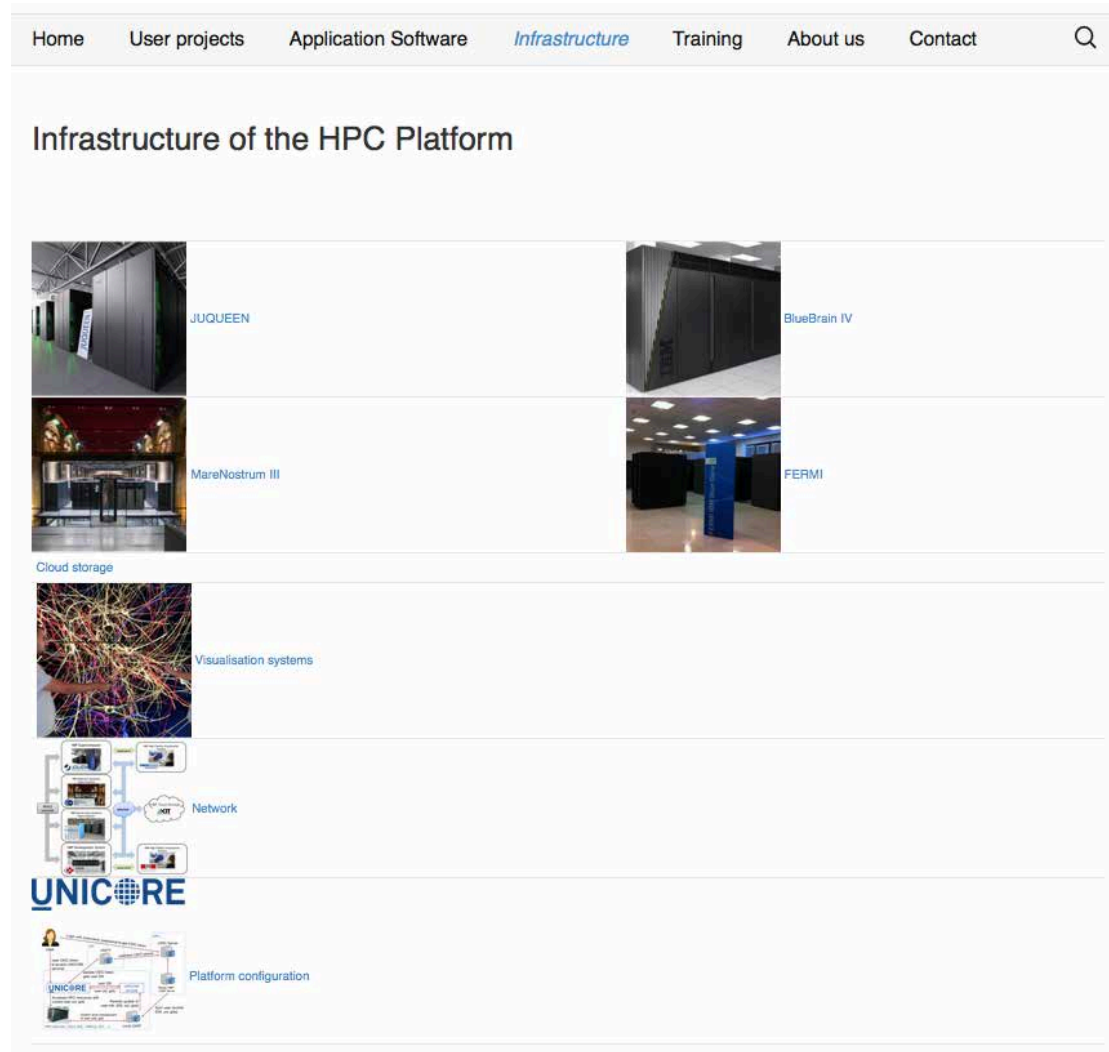


Figure 4: Screenshot of the “Infrastructure” section



Training

This section provides information about the training and course programme of the HPC Platform that mainly consists of courses and workshops organised by the SP7 partners.

- Training courses
An event calendar with all courses and workshops, sorted by different categories like software development, HPC, visualisation and schools for students
- Online training
A collection of trainings and material provided online by the SP7 partners
- SP7 partners' courses
A collection of links to the training websites of the SP7 partners
- HBP Education Programme
Link to the HBP Education Programme
- Training request
A contact form offered for the HPC Platform users to provide feedback on the training programme and to request additional training and support

Home
User projects
Application Software
Infrastructure
Training
About us
Contact
Q

EVENTS IN
2016-03

SEARCH
Search

FIND EVENTS

VIEW AS
Month

Events for March 2016

| MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY |
|--|--|--|--|---|----------|--------|
| 29 | 1 Introduction to Scientific and Technical Computing in C++ [Italian] | 2 Introduction to Scientific and Technical Computing in C++ [Italian] | 3 Introduction to Scientific and Technical Computing in C++ [Italian] | 4 | 5 | 6 |
| 7 | 8 Introduction to modern Fortran | 9 Introduction to modern Fortran | 10 Introduction to modern Fortran | 11 Introduction to modern Fortran | 12 | 13 |
| 14 Parallel I/O and Portable Data Formats | 15 Parallel I/O and Portable Data Formats | 16 Parallel I/O and Portable Data Formats | 17 Vectorisation and portable programming using OpenCL | 18 Vectorisation and portable programming using OpenCL | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | 1 | 2 | 3 |

« February
April »

+ EXPORT MONTH'S EVENTS

Figure 5: Screenshot of the Training Event Calendar

About us

This section provides an overview of the HPC Platform partners.



The HPC Platform has 15 partner institutions from all over Europe.

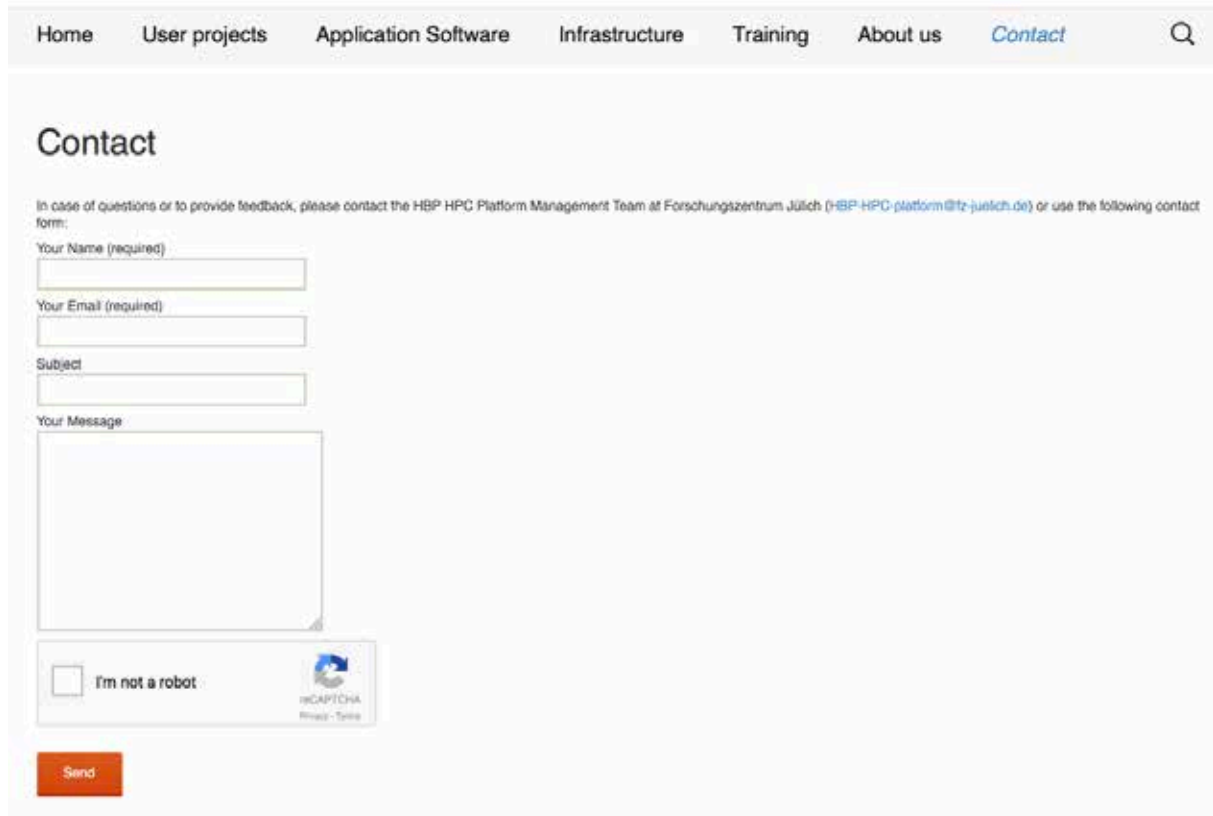
| | |
|---|---|
|  | Barcelona Supercomputing Centre – Centro Nacional de Supercomputación Barcelona, Spain |
|  | Bergische Universität Wuppertal (BUW) Wuppertal, Germany |
|  | CINECA Italy |
|  | Swiss National Supercomputing Centre – Centro Svizzero di Calcolo Scientifico (CSCS), Eidgenössische Technische Hochschule Zürich (ETHZ) Lugano, Switzerland |
|  | Centrum Wiskunde & Informatica (CWI) Amsterdam, Netherlands |
|  | École Polytechnique Fédérale de Lausanne (EPFL) Lausanne, Switzerland |
|  | Fraunhofer Gesellschaft (FG) Germany |
|  | Forschungszentrum Jülich (JÜELICH) Jülich, Germany |
|  | Karlsruhe Institute of Technology (KIT) Karlsruhe, Germany |
|  | Rheinisch Westfälische Technische Hochschule Aachen (RWTH) Aachen, Germany |
|  | Πολυτεχνείο Κρήτης – Technical University of Crete (TUC) Crete, Greece |
|  | The University of Edinburgh (UEDIN) Edinburgh, United Kingdom |
|  | Goethe Universität Frankfurt (UFRFA) Frankfurt am Main, Germany |
|  | Universidad Politécnica Madrid (UPM) Madrid, Spain |
|  | Universidad Rey Juan Carlos (URJC) Madrid, Spain |

Figure 6: Screenshot of the "About us" page



Contact

This page contains contact information and a contact form for HPC Platform users. The HPC Platform Management Team at Forschungszentrum Jülich answers all requests or forwards them to the relevant experts. A support team will be established and take over this role at the beginning of SGA1.



The screenshot shows a web page with a navigation menu at the top: Home, User projects, Application Software, Infrastructure, Training, About us, and Contact (highlighted). Below the menu is a search icon. The main content area is titled 'Contact' and contains the following text: 'In case of questions or to provide feedback, please contact the HBP HPC Platform Management Team at Forschungszentrum Jülich (HBP-HPC-platform@fz-juelich.de) or use the following contact form:'. Below this text are four input fields: 'Your Name (required)', 'Your Email (required)', 'Subject', and 'Your Message'. At the bottom of the form is a checkbox labeled 'I'm not a robot' next to a reCAPTCHA logo, and a red 'Send' button.

Figure 7: Screenshot of the contact page

3. Support and User Feedback

To obtain user assistance, to provide user feedback or to contribute to the on-going development of the platform, please contact: HBP-HPC-platform@fz-juelich.de

You can also use the contact form available on the HPC Platform Guidebook: https://hbp-hpc-platform.fz-juelich.de/?page_id=152

4. Future Development of the Platform

Future development of the Platform is covered in the Month 30 Deliverable D7.7.5, Annex F: Backlog (remaining bugs and new features to be added).